

**San Juan CERAP Water Pressure Improvement Project
FAA-ZSU-805887**

Response to Request For Information

1. Regarding Tank Cleaning says:

B. Use purging and disinfecting procedure described in AWWA C652 or as described below:

- 1. Purge water storage tank with potable water.*
- 2. Disinfect tank by one of the following methods:*
 - a. Fill tank with water-chlorine solution containing at least 50 ppm of chlorine. Isolate tank and allow to stand for 24 hours.*

Method b. will not be permitted.

~~*b. Fill tank with water-chlorine solution containing at least 200 ppm of chlorine. Isolate tank and allow to stand for three hours.*~~

- 3. Flush tank, after required standing time, with clean, potable water until chlorine levels are not present at levels higher than the standard domestic supply.*
- 4. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedure if biological examination made by authorities having jurisdiction shows evidence of contamination.*

C. Prepare written reports for purging and disinfecting activities.

2. Question:

Who will be responsible for submitting water samples?

To whom Authorities?

Please specify testing Method.

FAA will provided water testing after the tank has been cleaned and the system is ready for service.

Water used after cleaning, how it will be disposed?

Via tank truck to an authorized facility or directly to sewer?

Water will be released on site and coordinated with RE.

3. Please clarify Booster pumps:

What is the contractor's responsibility?

Replace existing domestic water booster pumps.

Current Control Panel will be used?

Existing control panel to remain.

Does existing feeder handles new pump capacity?

Yes.

4. There are no specifications for 85 gals Expansion Tanks.

Specifications will be provided.

5. Specifications for 2000 gals Water Storage Tanks says:

Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details for each water-storage tank, including the following:

- 1. Tank, roof, and shell openings.*
- 2. Plans, elevations, sections, details, and attachments to other work.*
- 3. Structural analysis and calculations signed and sealed by the qualified professional engineer responsible for their preparation.*

6. Question:

According to PR Law has to be a Licensed Engineer in PR. Who will be responsible to perform mentioned requirement is Tank is manufacture in US?

A Registered Professional Engineer licensed in Puerto Rico must sign and seal the documents.

7. Question:

According to Storage Tank manufacturer takes between 8 to 10 weeks to complete construction and not considering Shipping and Installation? Please clarify since Project Duration is 60 days.

The 60 days starts when the actual construction starts which is normally after you receive the equipment and ready to mobilize to the site.

8. Question:

According to UV lights Manufacturer is required dedicate 120 volt circuit. Drawings do not show any electrical work.

Circuit will be provided.

9. Question:

Please clarify project completion boundaries since in Site meeting it was discuss that new system will not be connected.

Project end point will be at the ceiling above the UV systems.

10. Question:

New Water Storage Tank drawing ZSU-D-805887-M002 Rev A Shows an Altitude Valve according to drawing ZSU-D-805887-G002 Rev A. Submitted Specifications does not provide information. Please provide

Specifications will be provided.

11. Question:

During Site visit it was request to consider as part of our proposal to include State (PR) Tax, Municipal Tax and Construction Permits. Should we present mentioned cost as part of the total installation cost or as an option

Costs are to be included in total installation cost.

12a. See below comments from Highland Tank & Mfg Tank Manufacturer primary option from designer:

WE HAVE TO TAKE EXCEPTION TO CERTAIN SECTIONS OF THE SPEC INCLUDING SECTION 15450 PART 1.3 A,B,C/ 1.4 C & F & 1.5 A WIND/SEISMIC..... & THERMAL BY SITE OR STRUCTURAL ENGINEER, PE STAMP BY SITE ENGINEER, SEISMIC BY SITE ENGINEER, STRUCTURAL ENGINEER PROVIDED BY CUSTOMER TO DETERMINE CALCULATIONS FOR FABRICATION AND ERECTION OF SURFACE WATER-STORAGE TANK.

Highland Tank & Mfg. is quoting the requested tank based on construction criteria outlined in UL 142 and will be so labeled. UL 142 however, does not provide guidelines for seismic anchorage. The Structural Engineer of Record (not provided by HT) would need to evaluate the tank proposed for this project and its suitability to meet the building code requirements. Please notify Highland Tank & Mfg. if any construction modifications are required.

12b. Question :

Please determine course of action

The tank is to be designed in accordance with AWWA D100-05.

13a. See comments from Alternate tanks manufacturer

We are supplying "Tank Shell Interior Finish" complying with AWWA D102, as specify (Interior and exterior). There will be no tank line since we are complying with AWWA for potable water.

2" interstitial monitor...does not apply since this is a single wall tank .Interstitial is used for double wall tanks to separate one wall from the other .

13b. Question:

Please clarify

Steel tanks are to have a two component polyurethane lining that complies with NSF 61 requirements.

The interstitial monitor is not to be included. The tank shall include a liquid level sight glass to indicate the water level in the tank.

14. Question:

1. Drawings request a 3" connection to UV Lights. UV light Manufacturer is indicating that 3 " inch connections is a special order and might take 10 to 12 weeks versus a regular connection of 2" inch that takes 2 weeks delivery, meeting design criteria.

Please determine course of action.

Piping Flow Diagram 1/M002 shows 2" pipes connecting to the UV Systems. The manifolds are to be 3" pipe.

15. Question:

Can the centrifugal pumps specified in Section 15444 be Wayman pumps manufactured by the Crane Company.

Wayman / Crane pumps are acceptable sources.

16. Question:

Can you define the specifications for the pressure tanks, fiberglass bladder type or metal diaphragm type.

Specifications will be provided.

17. Question:

Is the Contractor responsible for obtaining and payment of building fees, inspection fees, utility connections. Which area expected?

Costs are to be included in total installation cost.

18. Question:

Which inspections, tests and quality control services by independent testing agencies are expected?

See Question 1

19. Question:

Which spare parts need to be provided?

None.

20. Question:

Specs indicate the use of Type L hard copper water tube for all uses. Should Type K be considered instead for applicable situations?

Type K copper may be substituted for type L.

21. Question:

How should the disinfecting water used be disposed of?

See Question 1

22. Question:

The strainers specified in part 15110 of the specs do not appear in the construction drawings. Are these to be considered in the installation? If so, specify the location for their installation.

No strainers are required in this project.

SECTION 15450 - POTABLE-WATER STORAGE TANK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide and install a ground supported water storage tank in one of the following materials.
 - 1. A36 Steel, nonpressure, potable-water storage tank.
 - 2. 304L Stainless Steel, nonpressure, potable-water storage tank.

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Ground supported potable-water storage tank, including structural reinforcement and foundation, shall be designed and constructed in accordance with AWWA D100-05.
- B. Seismic Performance: Tank shall withstand the effects of earthquake motions determined according to ASCE 7-05.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
- C. Thermal Movements: Water-storage tank, including structural reinforcement and foundation, shall allow for thermal movements resulting from the maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 110 deg F ambient, 180 deg F material surfaces.
- D. Wind Force Resistance: Tank shall withstand winds of 145 mph.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the water storage tank.

2. Include rated capacities, operating characteristics, and furnished specialties and accessories.
- B. Steel Tank Interior Finish: For each paint system specified. Include all primers, liners and finishes.
 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
 3. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
 4. MSDS for each product used.
- C. Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details for each water-storage tank, including the following:
 1. Tank, roof, and shell openings.
 2. Plans, elevations, sections, details, and attachments to other work.
 3. Structural analysis and calculations signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Welding certificates.
- E. Qualification Data: For fabricator.
- F. Seismic Qualification Certificates: For steel and stainless steel water storage tank, accessories, and components, from manufacturer.
 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- G. Purging and disinfecting reports.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employ a qualified structural engineer to prepare calculations, Shop Drawings, and other structural data for fabrication and erection of ground supported water-storage tank.
 1. Engineering Responsibility: Preparation of data for ground supported water-storage tank, anchorage, accessories, and specified appurtenances, including Shop Drawings.
- B. Welding: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code--Steel."
 2. AWS D1.3, "Structural Welding Code--Sheet Steel."
- C. Pipe Welding: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
- D. Comply with NSF 61, "Drinking Water System Components - Health Effects," for potable-water storage tank. Include appropriate NSF marking.

1.6 COORDINATION

- A. Coordinate size and location of foundation anchors with actual equipment provided.

PART 2 - PRODUCTS

2.1 NONPRESSURE, POTABLE-WATER STORAGE TANK

- A. Description: Steel or stainless steel, cylindrical horizontal nonpressure-rated tank with plate end caps.
- B. Fabricate supports and attachments to tank with reinforcement strong enough to resist tank movement during design load events when tank supports are anchored to the foundation.
- C. Construction: Steel or stainless steel, constructed with nontoxic welded joints. The tank is to be entirely steel construction or entirely stainless steel construction.
- D. Manhole: Watertight, for tank more than 36 inches in diameter
- E. Tappings: Factory-fabricated and welded to tank.
1. NPS 2" and Smaller: ASME B16.5, flanged
 2. NPS 2-1/2" and Larger: ASME B16.5, flanged.
- F. Specialties and Accessories: Include tappings in the tank and the following:
1. Goose neck type free air vent with 316 stainless steel insect screen. Screen to have maximum opening size of 0.043".
 2. Liquid level gage glass, brass fittings, compression stops, and gage-glass guard.
- G. Vertical Tank Hold Down Lugs: Factory-fabricated lugs, welded to tank before testing and labeling.

2.2 PAINT MATERIALS

- A. 304L Stainless Steel Tank Finishes:
1. No interior or exterior finishes are to be applied to the 304L stainless steel tank.

B. A36 Steel Tank Finishes:

1. Paint: Comply with AWWA D102.
2. Steel Tank Shell Interior Finish: Two component polyurethane lining complying with NSF 61. Extend lining into and through tank fittings and outlets. Interior lining is to be continuous and extend beyond the sealing surface of all connections. Primer to comply with liner application guidelines.
3. Steel Tank Shell Exterior Intermediate Paint: Acrylic polyurethane paint compatible with prime and finish paints. Intermediate coat shall have a slight color contrast with finish coat.
4. Steel Tank Shell Exterior Finish Paint: Factory acrylic polyurethane coating according to AWWA D103. Color: White

2.3 SOURCE QUALITY CONTROL

- A. Test and inspect potable-water storage tank according to the following tests and inspections and prepare test reports:
1. Pressure Testing for Potable-Water Storage Tank: Hydrostatically test to ensure structural integrity and freedom from leaks at pressure of 5 psig. Fill tank with water, vent air, pressurize tank, disconnect test equipment, hold pressure for two hours with no drop in pressure, and check for leaks.
- B. Repair or replace tank that fail test with new tank, and repeat until test is satisfactory.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install water storage tank on concrete foundation, level and plumb, firmly anchored. Arrange so devices needing servicing are accessible.
- B. Anchor tank to foundation.
- C. Install the following devices on tank where indicated:
1. Tank vent.
 2. Connections to accessories.
- D. After installing tank with factory finish, inspect finishes and repair damages to finishes.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to potable-water storage tank to allow service and maintenance.
- C. Connect water piping to water storage tank with flanges and with shutoff valves. Connect tank drains with shutoff valves and discharge at grade beyond tank foundation. All shut off valves shall be flanged ball valves connected directly to tank flanges.
 - 1. Valves are specified in Section 15110 - Valves
 - a. Valves NPS 4" and Smaller: Flanged Ball Valve.
 - b. Valves NPS 6" and Larger: Lugged Butterfly Valve.
 - c. Drain Valves: Flanged NPS 3" ball valve.
 - 2. Water Piping Connections: Make connections to dissimilar metals with dielectric fittings.

3.3 FIELD QUALITY CONTROL

- A. Perform the following final checks before filling:
 - 1. Test operation of tank accessories and devices.
 - 2. Verify that tank vent is clear and operating correctly.
- B. Filling Procedures: Follow manufacturer's written procedures. Fill tank with water to operating level.

3.4 CLEANING

- A. Clean and disinfect potable-water storage tank.
- B. Use purging and disinfecting procedure described in AWWA C652 or as described below:
 - 1. Purge water storage tank with potable water.
 - 2. Fill tank with water-chlorine solution containing at least 50 ppm of chlorine. Isolate tank and allow to stand for 24 hours.
 - 3. Flush tank, after required standing time, with clean, potable water until chlorine levels are not present at levels higher than the standard domestic supply.
 - 4. FAA will test water quality before and after the tank. Repeat procedure if testing indicates evidence of contamination from tank.
- C. Prepare written reports for purging and disinfecting activities.

END OF SECTION 15450

SECTION 15110 - VALVES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes general duty valves common to several mechanical piping systems.

1.3 REFERENCE STANDARDS

- A. American National Standards Institute (ANSI)
 - 1. B16.1: Cast Iron Pipe Flanges and Flanged Fittings.
 - 2. B16.10: Face-to-Face and End-to-End Dimensions of Valves.
 - 3. B16.18: Cast Copper Alloy Solder Joint Pressure Fittings.
 - 4. B16.34: Valves - Flanged, Threaded, and Welding End.
- B. American Society of Mechanical Engineers (ASME)
 - 1. B1.20.1: Pipe Threads, General Purpose (Inch).
 - 2. B16.1: Cast Iron Pipe Flanges and Flanged Fittings.
 - 3. B16.5: Pipe Flanges and Flanged Fittings.
 - 4. B31.1: Power Piping.
 - 5. B31.9: Building Services Piping.
- C. American Society for Testing and Materials (ASTM)
 - 1. A47: Specification for Ferritic Malleable Iron Castings.
 - 2. A126: Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
 - 3. A216: Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High Temperature Service.
 - 4. A220: Specification for Pearlitic Malleable Iron.
 - 5. A278: Specification for Gray Iron Castings for Pressure-Containing Parts for Temperatures up to 650 deg F.
 - 6. A536: Specification for Ductile Iron Castings.
 - 7. B62: Specification for Composition Bronze or Ounce Metal Castings.
 - 8. B371: Specification for Copper-Zinc Silicon Alloy Rod.
 - 9. B584: Specification for Copper Alloy Sand Castings for General Applications.
- D. Manufacturers Standardization Society (MSS)
 - 1. SP25: Marking System for Valves, Fittings, Flanges, and Unions.
 - 2. SP78: Cast Iron Plug Valves, Flanged and Threaded Ends.
 - 3. SP80: Bronze Gate, Globe, Angle and Check Valves.
 - 4. SP85: Cast Iron Globe and Angle Valves, Flanged and Threaded Ends.
 - 5. SP110: Ball Valves Threaded, Socket-Welded, Solder Joint, Grooved and Flared Ends.

1.4 SUBMITTALS

- A. Prepare submittal data as specified in Section 01300, "Submittals." In addition, provide the following.
- B. Product Data for each valve type. Include body material, valve design, pressure and temperature classification, end connection details, seating materials, trim material and arrangement, dimen-

sions and required clearances, and installation instructions. Include list indicating valve and its application.

1.5 QUALITY ASSURANCE

- A. ASME Compliance: Comply with ASME B31.9 for building services piping and ASME B31.1 for power piping.
- B. MSS Compliance: Comply with the various MSS Standard Practice documents referenced.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Prepare valves for shipping as follows:
 - 1. Protect internal parts against rust and corrosion.
 - 2. Protect threads, flange faces, grooves, and weld ends.
- B. Use the following precautions during storage:
 - 1. Maintain valve end protection.
 - 2. Store indoors and maintain valve temperature higher than ambient dew-point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.
- C. Use a sling to handle large valves. Rig to avoid damage to exposed parts. Do not use hand-wheels and stems as lifting or rigging points.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Valves: Provide valves from the valve table indicated in the Index of Systems and Services for each piping system.
- B. General: Furnish valves of each type, made by one manufacturer.
- C. Ball Valves, 4 Inches and Smaller: MSS SP-110, Class 150, 600-psi CWP, ASTM B 584 bronze body and bonnet, 2-piece construction; 316SS ball, full port for all size valves; blowout proof; 316SS stem; teflon seats and seals; threaded or soldered end connections:
 - 1. Manufacturer: Jamesbury, Watts, and Crane.
 - 2. Operator: Lever operators with lock.
 - 3. Stem Extension: For valves installed in insulated piping.
 - 4. Memory Stop: For operator handles.
 - 5. Self-aligning.
 - 6. Quarter turn operation.
 - 7. Internals removable without removing valve from line.
 - 7. Top or end loaded.
 - 8. Leak tight without using springs.
- D. Altitude Valve shall be hydraulically operated, single diaphragm-actuated globe or angle valve.
 - 1. The Valve Size: 3"

2. Main Valve Body and Cover: Ductile Iron
 3. Main Valve Trim: Bronze or Stainless Steel
 4. Connections: Flanged Class 150
 5. Pressure Rating: Class 150
 6. Temperature Range: up to 180 degrees F
 7. Rubber Material: Buna-N rubber
 8. Coating: Factory applied epoxy coating on both outside of valve and inside of valve suitable for outdoor conditions and potable water service.
 9. Desired Options: Provide main valve with check valve function in addition to altitude valve function.
 10. Provide valves with factory installed pilot control system.
 11. Known acceptable source: Cla-Val Model 210-01.
- E. Unless otherwise indicated, valves installed in connection with mechanical piping shall comply with the following and as specified in Section 15050, "Basic Mechanical Material and Methods":
1. Furnish one make throughout the project. Known acceptable manufacturers are Jamesbury, Watts, and Crane. All valves of a given type shall be provided by the same manufacturer.
 2. Properly pack stems.
 3. Mark each valve at the factory with the following minimum information, engraved, stamped, or cast on each valve or metal tag permanently attached to the valve indicating manufacturer's name, catalog or figure no., size and pressure class and arrows to indicate direction of flow on check, globe, angle and eccentric plug valves.
 4. Valves shall be furnished with TFE, tetrafluoroethylene coating (or TEFLON trademark coating) on seats and gaskets. Packing materials shall be impregnated with material to prevent sticking or freezing of valve operation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine piping system for compliance with requirements for installation tolerances and other conditions affecting performance of valves. Do not proceed with installation until unsatisfactory conditions have been corrected.
- B. Examine valves interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- C. Operate valves from fully open to fully closed positions. Examine guides and seats made accessible by such operation.
- D. Examine threads on valve and mating pipe for form and cleanliness.
- E. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Check gasket material for proper size, material composition suitable for service, and freedom from defects and damage.
- F. Do not attempt to repair defective valves; replace with new valves.

3.2 INSTALLATION

- A. Install valves as indicated, according to manufacturer's written instructions.
- B. Coordinate piping installation and specialties arrangement requirements with schematics on Drawings and requirements specified in Specifications.
- C. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate the general arrangement of piping, fittings, and specialties.
- D. Install valves with unions or flanges at each piece of equipment arranged to allow servicing, maintenance, and equipment removal without system shutdown.
- E. Locate valves for easy access and provide separate support where necessary.
- F. Install valves in horizontal piping with stem at or above the center of the pipe.
- G. Install valves in a position to allow full stem movement.

3.3 SOLDERED CONNECTIONS

- A. Cut tube square and to exact lengths.
- B. Clean end of tube to depth of valve socket with steel wool, sand cloth, or a steel wire brush to a bright finish. Clean valve socket.
- C. Apply proper soldering flux in an even coat to inside of valve socket and outside of tube.
- D. Insert tube into valve socket, making sure the end rests against the shoulder inside valve. Rotate tube or valve slightly to ensure even distribution of the flux.
- E. Apply heat evenly to outside of valve around joint until solder melts on contact. Feed solder until it completely fills the joint around tube. Avoid hot spots or overheating valve. Once the solder starts cooling, remove excess amounts around the joint with a cloth or brush.

3.4 THREADED CONNECTIONS

- A. Note the internal length of threads in valve ends and proximity of valve internal seat or wall to determine how far pipe should be threaded into valve.
- B. Align threads at point of assembly.
- C. Apply appropriate tape or thread compound to the external pipe threads, except where dry seal threading is specified.
- D. Assemble joint, wrench tight. Wrench on valve shall be on the valve end into which the pipe is being threaded.

3.5 FLANGED CONNECTIONS

- A. Align flange surfaces parallel.
- B. Assemble joints by sequencing bolt tightening to make initial contact of flanges and gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly with a torque wrench.
 - 1. For dead-end service, butterfly valves require flanges both upstream and downstream for proper shutoff and retention.

3.6 VALVE END SELECTION

- A. Select valves with the following ends or types of pipe/tube connections:
- B. Copper Tube Size, 2 Inches and Smaller: Solder ends, except provide threaded ends for heating hot waterservice.

3.7 ADJUSTING

- A. Adjust or replace packing after piping systems have been tested and put into service, but before final adjusting and balancing. Replace valves if leak persists.
- B. Cleaning: Clean factory finished surfaces, and repairs marred or scratched surfaces.

3.4 INDEX OF SYSTEMS AND SERVICES

System or Service	Line Symbol	Maximum Operating Temperature (°F)	Valve Table	Hydrostatic Test Pressure psig
Domestic Water	CW	Ambient	I	150

3.5 VALVE TABLE I

Item	Size (inches)	Description
Ball	3 and smaller	Body, 3 piece, bronze; Ball, hard chrome plated brass; Seats, TFE; End prep, solder joint; Recommended service, Water; Rated for nonshock pressure of 200 psig at 200 F.

END OF TABLE

END OF SECTION 15110

**San Juan CERAP Water Pressure Improvement Project
FAA-ZSU-805887**

**Project Addendum #1
2/24/10**

1. Clarifications for drawing ZSU-D-805887-M002:
 - a. Piping Flow Diagram 1/M002: The new underground pipe should not connect to the existing underground pipe.
 - b. Note "C" found in the condenser water boosting system not correct. The project shall include: Install new check valves at condenser water pump outlets.
 - c. Note "C" found in the domestic water boosting system is correct. The pressure regulating valve shall be a 3" WATTS Series N223B pressure regulating valve, or approved equivalent.
2. The UV Disinfection System will use an existing 120V receptacle. The existing face plate and receptacle are to be removed. A metal surface mounted duplex box and face plate are to be installed over the existing box. Two new receptacles are to be installed in the surface mounted duplex box and connected to the existing circuit.
3. The existing thermal overload relay heater elements located inside of the control panel are to be replaced with heater elements sized for the new pumps.
4. The 85 gallon compression tanks shall meet the following requirements:
 - a. Comply with ANSI/NSF 61 standards.
 - b. Steel shell with polypropylene liner
 - c. FDA approved Butyl/EPDM diaphragm.
 - d. Maximum operating pressure: 100 psig
 - e. Maximum operating temperature: 200°F